

University of Groningen

Common mental disorders

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2016

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Kuper, L. (2016). *Common mental disorders: Prediction of sickness absence durations and recurrences*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen.

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Chapter 1

General Introduction

Aim of this Thesis

The aim of this thesis is to examine the factors associated with the duration and recurrence of sickness absence due to common mental disorders. This first chapter describes the background and aim of this thesis and introduces the research questions. It concludes with an outline of the thesis.

Reason for this research

During my 23 years as an occupational physician, the guidance of employees with Common Mental Disorders (CMDs) has become an increasing part of my work. An employee always experiences a sickness absence period due to CMDs as a very difficult period in his life. To better understand how to guide these employees I felt I needed more knowledge to identify the ones at risk of long-term and recurrent sickness absence due to CMDs. Such knowledge is vital when one must decide at an early stage of sickness absence whether or not to refer employees to treatment and interventions aimed at recovery and a sustainable return to work.

Common mental disorders and work

The number of employees reporting sick with CMDs, including depression, anxiety and adjustment disorders, is increasing. ^[1] In the last five years in the Netherlands, CMDs have accounted for a substantial proportion of long-term sickness absence, increasing from 25% in 2010 to 33% in 2014 (Table 1). Not only the proportion, but also the duration of sickness absence due to CMDs, is increasing. In 2010 this duration averaged 101 days and in 2014 it averaged 117 days.

Table 1: Causes of long-term sickness absence (%) in 2010-2013

(Source: ArboNed, 2014). ^[2]

Year	Cause	Men %	Women %	Total %	Total ASA*
2010	Musculoskeletal disorders	42.5	36.2	-	103.2
	Mental disorder	14.6	24.9	-	100.8
	Other physical disorders	35.5	38.1	-	111.5
2011	Musculoskeletal disorders	43.6	27.1	38.4	107.0
	Mental disorder	17.8	30.6	25.2	109.7
	Other physical disorders	34.2	35.3	34.8	118.2
2012	Musculoskeletal disorders	43.5	29.4	39.1	108.7
	Mental disorder	23.7	38.3	29.1	118.5
	Other physical disorders	32.7	32.1	32.4	119.4
2013	Musculoskeletal disorders	37.7	32.2	34.9	108.9
	Mental disorder	29.6	41.0	35.8	118.3
	Other physical disorders	32.7	27.8	29.3	117.9
2014	Musculoskeletal disorders	33.6	23.1	29.9	108.6
	Mental disorder	26.5	41.0	33.0	117.1
	Other physical disorders	40.0	35.9	38.1	124.7

* ASA = Average sickness absence period in days

- = Data not available

In 2012, 11,895 employees in the Netherlands did not (fully) return to work after a two-year period of sickness absence due to CMDs, and were granted disability pensions (Table 2). Despite the fact that Dutch regulations aim to reduce the number of such employees, figures from the National Social Security Institute (UWV) show that one third of new disability claims are granted to employees with CMDs. Among employees under 45 years of age, CMDs are the main reason for disability claims (Table 2), and are also the main reason for disability claims in the age group 45-55. The category 'other diagnoses' is slightly larger than the category 'mental disorders', but 'other diagnoses' is a composite category.

Table 2: New disability pensions per diagnosis (in %) per age category, 2011
(Source: National Social Security Institute (UWV), 2012).^[2]

Age	< 35	35-44	45-54	55-64	Total	Total Number
Mental disorders	49%	40%	28%	18%	31%	11,895
Musculoskeletal disorders	13%	18%	24%	26%	21%	8,095
Cardiovascular diseases	1%	4%	8%	14%	8%	2,895
Malignancies	3%	5%	10%	13%	9%	3,242
Other diagnoses (incl. unknown)	34%	33%	30%	29%	31%	11,773
Total	100%	100%	100%	100%	100%	
Number of new disability pensions	6,500	8,400	12,100	10,900		37,900

These figures are not unique for the Netherlands. The 2012 report on "Sick on the Job? Myths and Realities about Mental Health and Work", Mental Health and Work, by the Organisation for Economic Cooperation and Development (OECD) shows that on average one third of disability claims in the affiliated countries are also based on mental disorders. ^[1]

The negative consequences for both the individual and society have put sickness absence due to CMDs high on the political agenda. Long-term sickness absence and disability create a distance from the labour market. ^[1] This distance is often further increased by the ensuing negative spiral of unemployment, poverty and deterioration of (mental) health. ^[3-9] The total estimated costs of mental problems in the Netherlands are estimated at 3.3% of the Gross Domestic Product. These are mainly indirect costs caused by loss of productivity, performance and, finally, of employment ^[1]. Besides being on political agendas, sickness absence due to CMDs also ranks high on the agenda of Occupational Safety and Health research. To date, this research focuses on the duration, Return to Work (RTW) and management of sickness absence due to CMDs. Several studies have shown that a number of factors, such as age and diagnoses of depression or anxiety, affect the duration of such absence, whereas factors like the number of previous recurrences, gender, and age affect its risk of recurrence. ^[10-16] Recent research is studying how employees with mental problems function at work ^[17,18], and is also investigating sickness absence due to mental problems with regard to its recurrence. ^[19]

Occupational physicians in the Netherlands are working with a guideline developed in 2007: "The management of mental health problems of workers by occupational physicians". ^[20] In this guideline, the risk factors mentioned above are not yet explicitly taken into account to identify employees at risk for long-term or recurrent sickness absence. If occupational physicians were to use prediction models for the duration and recurrence of sickness absence due to CMDs, then high-risk employees could be identified and referred for treatment or interventions aimed at reducing this risk.

Context of the social security in the Netherlands

The level of sickness absence is, among other things, influenced by a country's social security system. To interpret the findings of this thesis it is important to understand the Dutch social security context [Textbox 1]. In contrast to other countries, in the Netherlands sickness absence is certified by occupational physicians, who play a central role in the guidance of the patients involved. For the RTW of employees sick-listed with mental disorders, the occupational physician uses as guideline: The management of mental health problems of workers by occupational physicians [Textbox 2].

Textbox 1

The Dutch social security system

In the Netherlands, the employer is responsible for the return to work of sick-listed employees during the first two years of their sickness absence. This implicates that the employer compensate sickness absence by paying a minimum of 70% of the employee's income before absence. The employer compensates SA irrespective of cause and work-relatedness. The employer's responsibilities for the return to work of employees are described in the "Gatekeeper Improvement Act" (Wet verbetering poortwachter). The employer is obliged to contact an occupational physician for certification of an employee's sickness absence within six weeks of his calling in sick. The occupational physician not only certifies sickness absence, but also advises on return to work. No later than the 8th week of sickness absence, employer and sick-listed employee must agree on an action plan for return to work. Return to work activities must be evaluated regularly by employer, employee, and occupational physician during the first year of sickness absence. In the second year, employer and employee must consider alternate workplaces either within the company or in other companies (outplacement) in addition to efforts aimed at return to the same workplace as before the absence. If the employee has not (fully) returned to work after two years of sickness absence, the employee can apply for a disability pension at the National Social Security Institute (UWV). UWV assesses all activities performed and aimed at occupational rehabilitation of the sick-listed employee. When the return to work activities are valued as insufficient, the employer can be fined, which means that the employer needs to employ the employee for another year and continue to pay wages at 70%. This legislation aims at stimulating employers to facilitate reintegration of a sick employee.

Predictors and prediction models for sickness absence due to CMDs

Duration of mental sickness absence

Employees with mental sickness absence are at risk of long-term sickness absence and disability pension. ^[5-9] Several studies show that 8.5 to 12.7% of employees who report sick with mental problems are still unfit to work after one year. ^[21, 22] There is, however, little consistency among studies on potential predictors of long-term mental sickness absence. Age (> 50 years), gender (women), education (low or intermediate/high), medical and sickness absence history, diagnosis, (sole) breadwinner, socioeconomic status, and the employee's own expectations about the duration of sickness absence duration have all been mentioned in systematic literature reviews as potential predictors of the duration of such absence. ^[10,11]

In 2005, Nieuwenhuijsen et al developed a prediction model for this reason. ^[10,11] A limitation of this study is that the prediction model was developed for a population dominated by teachers (54%). Four predictors of long-term mental sickness absence were identified: age >50 years, high education, employee's own expectation that mental sickness absence will last >3 months, and the presence of depressive and anxiety symptoms. Tables 3 and 4 show how Nieuwenhuijsen's prediction model can be applied in occupational health care practice.

Textbox 2

The role of the occupational physician

The role of the occupational physician in the Netherlands differs from that in most other countries. The occupational physician certifies sickness absence and plays a central role in the return to work of sick-listed employees. Neither the general practitioner nor the medical specialist give advice about return to work of employees. In advising on the return to work of employees sick-listed with CMDs, the OP adheres to the guideline "The management of mental health problems of workers by occupational physicians" ^[20]. The guideline is based on the theory that mental health problems are best interpreted as a loss of control. The recovery process can therefore be viewed as a process of regaining control through three stages:

- 1) crisis (loss of control and need of overview of what is happening),
- 2) orientation on problems and solutions (listing relevant problems and their solvability),
- 3) orientation on application of solutions (listing, prioritizing and practicing solutions in the work situation).

Guidance by the occupational physician focuses on strengthening the employee's problem-solving capacity. The employee is motivated to return to work while still suffering mental health symptoms; the focus is on accommodating work to the employee's remaining work capabilities (the 'place-then-train' principle). As a result, the employee will regain his/her normal daily routine and restore normal daily functioning parallel to and more or less independent of a reduction in mental health symptoms.

Table 3: Application of the prediction model assessing duration of sickness absence due to CMDs ^[13]

Factor	Options	Score
Age	< 50 years	0
	> 50 years	1
Education	Low	0
	Intermediate and high	1
When do you expect to be able to resume work?	Within 3 months	0
	After 3 months or longer	1
Depressive/anxiety symptoms	No	0
	Yes	1
Total score		Range 0 to 4

This prediction model has not been explicitly incorporated into the occupational physicians' guideline referred to above ^[20] and is only rarely used by occupational physicians. However, a prediction model for the duration of sickness absence could help these physicians to initiate interventions at an early stage, thereby preventing long-term absence. Moreover, employers and income insurance companies would be more inclined to pay for intervention costs if sickness absence due to CMDs threatens to be of long duration. The prediction model could give the sick-listed employee and his employer a global indication of the expected duration of absence; however, caution is warranted because the expectation of long-term sickness absence can be stigmatizing as well as a self-fulfilling prophecy.

Table 4: Estimated duration of sickness absence due to CMDs ^[13]

Total score	Mean duration
0	100 days
1	160 days
2	260 days
3 or 4	380 days

Recurrence of sickness absence due to CMDs

Employees who have been absent due to mental disorders are at increased risk of new episodes of mental sickness absence. According to Koopmans et al, employees with a previous period of such absence have a three times higher risk of recurrent mental sickness absence than do other employees. ^[23] Research has shown that recurrence rates do not differ between men and women. ^[14, 24] Women under 45 years of age have a higher risk of recurrent mental sickness absence than women aged 45 years or older, while no age differences were observed in men. ^[14] Sado et al found that, along with age, the number of recurrences is a risk factor for future absence. ^[15] According to Virtanen et al, manual employees (e.g. cleaners or maintenance employees) have a 25% higher risk of recurrent mental sickness absence and low-educated non-manual employees (e.g. mechanics and nurses) have a 15% higher risk than do high-educated non-manual employees (e.g. teachers and physicians). ^[16] Usually, the guidance of employees sick-listed with CMDs ends when the employee has fully resumed work. ^[19] The possibility of identifying employees at risk of recurrent sickness absence due to CMDs can be used to invite these employees for counselling and, if appropriate, refer them to targeted interventions to prevent recurrent absence. ^[19]

Research questions

The aims of this thesis were threefold. First, to increase knowledge of the factors associated with the duration of sickness absence due to CMDs. Second, to validate and improve Nieuwenhuijsen's prediction model for the duration of sickness absence due to CMDs in a heterogeneous population. Third, to increase understanding of the factors associated with the recurrence of sickness absence due to CMDs.

The dissertation addresses the following research questions:

Research question 1:

Does the common mental disorder diagnosis determine the duration of sickness absence, and which other factors play a role?

Research question 2a:

Can the existing prediction model predict the duration of sickness absence due to common mental disorders in a heterogeneous population of employees, and does the addition of work-related factors improve the prediction model's performance?

Research question 2b:

Does the prediction of the duration of sickness absence due to common mental disorders improve by incorporating illness perceptions of the employee in the prediction model?

Research question 3:

Does the diagnosis of the first episode of sickness absence due to common mental disorders determine the risk of recurrent sickness absence, and what is the median time between onset and recurrence of sickness absence due to common mental disorders?

Research question 4:

Does the risk of incidence and recurrence of sickness absence due to common mental disorders differ between office employees and production employees in the same industrial sector?

Research question 5:

Are shift employees at higher risk of incidence and recurrence of sickness absence due to common mental disorders than daytime employees?

Research question 6:

Does the employment status of employees change in the years after full return to work from a period of sickness absence due to common mental disorders?

Research question 7:

Which factors, according to scientists and physicians, should be incorporated in a model to predict recurrent sickness absence due to common mental disorders?

Thesis outline

In **Chapter 2** we describe the results of a register study on the associations between diagnoses, age, socio-economic position and the duration of sickness absence due to CMDs (research question 1). In **Chapter 3** we present a prospective cohort study in a heterogeneous population to validate and improve an existing prediction model for duration of sickness absence due to CMDs (research question 2a). In **Chapter 4** we further improve the prediction model by adding employees' illness perceptions (research question 2b). In **Chapter 5**, based on a 10-year follow-up study we examine whether the diagnosis of the first episode of sickness absence determines the risk of recurrent absence. Moreover, we investigate the median length of recurrent sickness absence due to common mental disorders (research question 3). In **Chapter 6** we examine the difference between office employees and production employees in the incidence and recurrence of sickness absence due to CMDs (research question 4). In **Chapter 7** we compare the risk of incidence and recurrent sickness absence due to CMDs between shift employees and daytime employees (research question 5). In **Chapter 8** we address the impact of sickness absence due to CMDs after return to work. During a 5-year longitudinal study we examined whether and how employment status was affected after a period of SA due to CMDs (research question 6). Using the Delphi approach, in **Chapter 9** we present factors to be incorporated into a prediction model for the risk of recurrent sickness absence due to CMDs (research question 7). In the general discussion, **Chapter 10**, we summarize and discuss the main research results and present recommendations for occupational physicians and employers and suggestions for further research.

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